

Con. 8527-13.

GS-3577

(3 Hours)

[ Total Marks : 100

- N.B.** (1) Question No. 1 is compulsory.  
 (2) Attempt any **four** questions out of remaining **six** questions.  
 (3) Assume suitable **data** whenever **necessary** and justify the same.  
 (4) **Figures** to the **right** indicate **full marks**..
1. (a) Give all the steps involved in recognition methodology and briefly explain each. 10  
 (b) Explain 'opening' and 'closing' with example. 10
  2. (a) Explain Hough transform with example. Mention all its merits and demerits. 10  
 (b) What is knowledge based vision ? Explain different forms of knowledge representation used in computer vision. 10
  3. (a) Explain Border tracking algorithm with suitable example. 10  
 (b) Explain inverse perspective projection. 10
  4. (a) Explain intensity matching of 1 dimensional signals. 10  
 (b) Explain back-tracking algorithm with suitable example. 10
  5. (a) Apply 'iterative' and 'classical' connected component labelling algorithms on following image :- 10  

0	0	0	0	0	0	0	1	1	0
0	1	1	0	0	0	1	1	1	0
0	1	1	1	0	1	1	1	1	0
0	0	1	1	0	0	0	1	1	0

  
 (b) Explain boundry descriptors. 10
  6. (a) Explain 'thinning' and 'thickening' with the help of examples. 10  
 (b) Explain mixed spatial gray-level moments. 10
  7. Write short note on :-  
 (a) External points ~~Extrem~~ <sup>Extremal</sup> 5  
 (b) Principal component analysis 5  
 (c) View class matching 5  
 (d) Global V/s local features. 5

Correction

Q. 7.9. Extremal points